



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,746	07/09/2003	James Lynn Haas	62146A	9889
109	7590	04/29/2005	EXAMINER	
THE DOW CHEMICAL COMPANY INTELLECTUAL PROPERTY SECTION P. O. BOX 1967 MIDLAND, MI 48641-1967			YAO, SAMCHUAN CUA	
		ART UNIT	PAPER NUMBER	
		1733		

DATE MAILED: 04/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

18

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/615,746	HAAS, JAMES LYNN
	<b>Examiner</b>	<b>Art Unit</b>
	Sam Chuan C. Yao	1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 20 April 2005.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-19 is/are pending in the application.  
 4a) Of the above claim(s) 17-19 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-16 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>08-08-03</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-16, drawn to a process for fabricating a fiber reinforced polymeric foam composite, classified in class 156, subclass 79.
  - II. Claims 17-19, drawn to a fiber reinforced polymeric foam composite, classified in class 428, subclass 304.4.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions Group I and Group II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case product as claimed can be made by another and materially different process, such as by extrusion foaming a mixture of polymer and reinforcing fiber.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Steven Mork on 4/20/2005 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-16. Affirmation of this election must be made by applicant in replying to this Office action.

Art Unit: 1733

Claims 17019 are withdrawn from further consideration by the examiner, 37

CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 9-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 is indefinite, because it is unclear what is intended by the phrase "... *disposed on a second support mat that is permeable by the foamable mixture*" (emphasis added). For the purpose of examining this limitation, it is assumed that this limitation requires a 2<sup>nd</sup> support mat which is permeable to a foamable mixture.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Longrigan et al (US 5,837,743).

With respect to claims 1-2 and 11-16, Longrigan et al discloses a process of making a foam structural laminate, the process comprises: a) providing a 1<sup>st</sup>

expandable reinforcing fiber mat (48), b) providing a 2<sup>nd</sup> expandable fibrous mat (52) on underside surface of the reinforcing fiber mat; c) impregnating the surface of the reinforcing fiber mat with a liquid foamable resin mixture; d) providing a pair of facing sheets (31,31') to the foamable impregnated fiber mat; e) compressing facing sheets and the fibrous mats using a pair of metering rolls (32,33); and, f) expanding the foamable resin into a foam between the pair of facing sheets (col. 13 line 52 to col. 14 line 54; figure 2). Although an expandable fiber mat is not explicitly described as a low binder fiber mat, the expandable fiber mat is taken to be a low binder fiber mat, because this mat consists of a fibrous mat disclosed in US Patent 4,028,158 issued to Hipchen et al. The fibrous mat in Patent '158 comprises glass fibers and minor amount of binder resin (i.e. as low as 2% by weight based on the total mat weight) (col. 3 lines 6-17). Accordingly, the fiber mat is stable dimensionally, but expansible to allow for an effective penetration of foamable resin mixture into the interstices of the mat (col. 3 lines 13-17).

As for a limitation of "... *the fibers of the low binder fiber mat become dispersed within the polymeric foam*" such is inherent in the process taught by Longrigan et al as evidence from a passage in Patent '158: "[t]he mixture having the glass fibers distributed substantially evenly therethrough ..." (col. 3 lines 39-42).

With respect to claim 3, see column 14 lines 1-6 of the Longrigan et al patent.

With respect to claim 4, see figure 1 of the Longrigan et al patent, and column 9 lines 8-47 and figure 6 of the Gluck et al patent. Note: the Gluck et al patent has been incorporated by reference by Longrigan et al (col. 14 lines 7-16).

With respect to claim 5, facing sheets in the process Longrigan et al are disclosed in US Patent 4,572,865 issued to Gluck et al (col. 14 lines 12-16). In column 2 lines 60-67, Gluck et al teaches using "... *fiberboard*, ... *aluminum*, *asphalt saturated felt*, ... *an asphalt saturated felt*, ..." (col. 2 line 60 to col. 3 line 2).

With respect to claims 6 and 8, see column 15 lines 23-45 of the Longrigan et al patent.

With respect to claim 7, see column 2 lines 32-39 of the Longrigan et al patent.

With respect to claims 9-10, see figure 2 of the Longrigan et al. For the purpose of meeting the limitation in this claim, 1<sup>st</sup> expandable fiber mat (48) and 2<sup>nd</sup> expandable fiber mat (52) are taken to be the recited second low binder fiber mat and second support mat, respectfully, while 3<sup>rd</sup> expandable fiber mat (52') and fibrous facing sheet (31) are taken to be the recited 1st low binder fiber mat and 1st support mat, respectively. See column 15 lines 43-45 of the Longrigan et al patent for claim 10. **Alternatively**, see figure 6 and column 9 lines 8-48 of the Gluck et al patent.

9. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Gluck et al (US 4,572,865). See column 2 line 62 to column 3 line 2, column 3 line 18 to column 4 line 32, column 5 line 67 to column 6 line 43, column 9 lines 8-47, figures 2

Art Unit: 1733

and 5-6. Note: Gluck et al teaches using expandable reinforcing fiber mat suggested in U.S. Patent 4,028,158 issued to Hichen et al. See column 9 lines 14-19.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (571) 272-1224. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*(Signature)*  
Sam Chuan C. Yao  
Primary Examiner  
Art Unit 1733

Scy  
04-22-05